

Remarks

1. Request for Continued Examination

A Request for Continued Examination under 37 C.F.R. § 1.114 has been included with this response. Accordingly, Applicant requests the withdrawal of the finality of the last Office Action and request further consideration of the attached amended and new claims on the merits.

2. Status of the Claims

Presently pending are claims 1-14, 17, 18, 21-23, 25, and 26-27, of which claims 1, 8, 13, 18, and 22 independent and the remainder are dependent. Applicant has amended independent claims 1, 8, 13, 18, and 22 in order to clarify the separate determination and prevention steps. Applicant has also amended dependent claims 2-7, 9-12, 14, 17, 21, 23, and 25 to clarify existing language and to correct claim references. Claims 15-16, 19-20, and 24 are currently canceled. Claims 26 and 27 are newly added.

3. Summary of the Office Action

In the office action mailed October 2, 2008, the Examiner rejected claims 1, 2, 4-7, 13, 17, 22, and 25 under 35 USC § 102(e) as being anticipated by U.S. Patent Pub. No. 2004/0008627 (*Garg*). The Examiner rejected claims 3, 8-12, 14, 18, 21, and 23 as being obvious over *Garg* in view of U.S. Patent Pub. No. 2004/0042435 (*Soomro*).

4. Response to Rejections

a. The Garg Reference Fails to Anticipate Claims 1, 2, 4-7, 13, 17, 22, and 25

As noted above, the Examiner rejected claims 1, 2, 4-7, 13, 17, 22, and 25 under 35 USC § 102(e) as being allegedly anticipated by *Garg*.

Applicant notes that the Court of Appeals for the Federal Circuit has held that “A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or

inherently described, in a single prior art reference.” *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Applicant submits that the *Garg* reference fails to anticipate each and every element of the currently claimed invention.

Applicants submit that the *Garg* reference fails to anticipate the claim limitation requiring that a station be prevented from contending for access to the shared resource for an interval equal to the first backoff interval.

While *Garg* may disclose the determination of a network utilization characteristic (NUC), an NUC is entirely different from a backoff interval. A backoff interval is a specific interval defining an intentionally imposed time delay between when a device first attempts to access a shared resource, and a time at which the device actually transmits a frame on the shared resource. (See paragraphs 0003-0008). The advantage of slot-based backoff is that it resolves contention and minimizes the event of multiple stations attempting to transmit at the same time (i.e., a collision event) while maintaining a relatively high level of efficiency in using shared resource. (See paragraph 0008). Paragraphs 0040-0041 of *Garg* define the term in a similar manner.

Importantly, *Garg* recognizes in paragraph 0049 that “determining the actual back-off interval before transmission on a per-frame basis is not possible for anyone but the station transmitting the frame.” Accordingly, *Garg* discloses using an average backoff interval discovered by the access point in calculating the NUC (see paragraphs 0044 and 0049).

However, at no point do the cited portions of the *Garg* reference disclose utilizing the determined first backoff interval (average wait time) as an actual backoff interval for any station contending for access to the shared resource. Rather, *Garg* merely discloses that the average backoff interval can be utilized in calculating the NUC, which is then utilized to determine whether to allow a new VOIP connection or not. (See paragraphs 0051 and 0063 and steps 470 and 455 of Fig. 4).

For at least the reason that *Garg* fails to disclose utilizing the determined average backoff interval as an actual backoff interval for any station contending for access to the shared resource, and in view of *Verdegaal Bros*, Applicant submits that the Examiner's rejection should be withdrawn, and claims 1, 2, 4-7, 13, 17, 22, and 25 allowed to issue.

b. The Soomro Reference Fails to Disclose What the Examiner Relied Upon the Reference as Disclosing

As noted above, the Examiner rejected claims 3, 8-12, 14, 18, 21, and 23 under 35 USC § 103(a) as being allegedly obvious over *Garg* in view of *Soomro*.

Applicant notes that dependent claims 3, 8-12, 14, 21, and 23 all inherit the limitations of their base claim, and claim 18 includes the limitations noted above that are not anticipated by *Garg*. For at least the reasons noted above in regard to the fail disclosure of the *Garg* reference, Applicant submits that claims 3, 8-12, 14, 18, 21, and 23 are also in condition for allowance. Additionally, Applicants submit that the *Soomro* reference, alone or in combination with *Garg*, fails to render claims 3, 8-12, 14, 18, 21, and 23 obvious.

The Examiner conceded in the last Office Action that *Garg* fails to disclose powering down a receiver for at least a portion of the backoff interval. In light of the failed teaching of *Garg*, the Examiner cited the *Soomro* reference as disclosing the powering down of a receiver during backoff intervals. (See page 5 of the Office Action). The Examiner stated that "It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to have combined *Garg* and *Soomro* to provide the power saving of *Soomro* in the system of *Garg*, because doing so would allow the advantageous and desirable use of a power-saving mode that is beneficial to 802.11 devices."

Applicants respectfully submit that the *Soomro* reference fails to disclose what the Examiner cited the reference as disclose, and furthermore, that one of ordinary skill in the art would not have combined the references in the manner asserted by the Examiner.

As set forth in Fig. 9 and paragraphs 0058-0060 of *Soomro*, the reference merely discloses a Hybrid Coordinator (HC) that explicitly informs a wireless station of scheduled times the wireless station can transmit on the shared resource. The wireless station is then allowed to enter a power save mode until just before the time it knows it is allowed to transmit.

First, the enforced delay explicit provided by the HC is not a “backoff interval” as is known to one of ordinary skill in the art. As described above, and in Applicant’s specification and the cited *Garg* reference, a backoff delay is a delay enforced by the transmitting station itself in an effort to reduce collisions by requiring the transmitting station, once it determines that it needs access to the shared resource, to refrain from contending for access to the resource of the backoff interval amount of time.

As noted in Applicant’s Background of the Invention section, during the backoff period, prior art stations were required to monitor the shared resource to determine whether or not the channel was idle. That meant that the station must keep its receiver powered on during this time. A station's wait for access to the shared resource might be interrupted by frame transmissions by other stations. In such a case, the backoff countdown process halts for the station and begins again only when shared resource has been idle after the end of the interrupting transmission. (See paragraphs 0006-0008 of Applicant’s disclosure).

Soomro’s disclosure of powering down until the next scheduled / allowed transmitting time is not a backoff period. For at least the reason that the Examiner has exclusively relied upon the *Soomro* reference for disclosing the powering down of a receiver during a backoff

period, and Soomro fails to make such a disclosure, Applicant respectfully requests that the Examiner withdraw the rejection, and allow all claims to issue.

Second, an access and schedule setting Hybrid Controller would render the need for a backoff period moot, as there would be substantially no chance of collisions due to the HC enforced schedule. Accordingly, even if the references were combined as asserted by the Examiner, the resultant combination would not include backoff periods, but would rather have a hybrid controller HC controlling access to the shared resource.

For at least the reason that any combination of the *Soomro* and *Garg* references would not include a backoff interval, Applicant respectfully requests that the Examiner withdraw the rejection, and allow all claims to issue.

Should the Examiner wish to discuss this case, the Examiner is invited to call the undersigned at (312) 913-0001.

Respectfully submitted,

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